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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,140

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Chris E. DiFrancesco

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EXAMINER

DUONG, THANH P

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

12/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/801,140	Applicant(s) DIFRANCESCO ET AL.	
	Examiner TOM P. DUONG	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8-14,17,19-36,38-77 and 83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-14,17,19-36,38-77 and 83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/17/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's remarks and amendments filed on August 22, 2008 have been carefully considered. Claims 1, 17, 33, 41, 52, 60, and 68-75 have been amended. Claims 3, 7, 15-16, 18, 37, and 78-82 have been canceled. New claim 83 has been added. Claims 1-2, 4-6, 8-14, 17, 19-36, 38-77, and 83 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 4-6, 8-14, 17, 19-36, 38-77, and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 631 805 (hereinafter EP '805) in view of Machida et al. (5,494,881) and Dettling et al. (4,335,023).

EP '805 discloses a honeycomb carrier with thin wall comprising inorganic oxide (titanium oxide) in amount of at least 50% by weight and at least one catalytically active component on the carrier of 1.0-30% by weight (page 3, lines 30-45); and a wall thickness of less than 0.22mm (page 3, lines 35-38); and a compressive strength of at least 1.5 kg/cm² (Table 3).

EP '805 essentially discloses the honeycomb with the same structural body of the instant claims but is silent with respect to the hydraulic diameter and macroporosity.

However, Dettling et al. teaches a honeycomb body with outer peripheral wall and a plurality of inner partition walls (Figs 1A-1C) and the walls contain a high percentage of inorganic oxide (alumina) and a catalytically active component (Col. 7, lines 30-36) and the porosity of such structure is within the range of 0.001 to 0.01 m²/g with diameter ranging from 2000-20000 Angstrom. Such configuration provides a high degree of accessible catalyst surface to increase the catalytic activity (Col. 1, lines 44-Col. 2, line 21).

Machida et al. also discloses a ceramic honeycomb body with outer peripheral wall (11) and plurality of inner partition walls (12) containing inorganic oxide having characteristics of a thin wall structure, high compressive strength, high cell density, low heat capacity, and high degree of OFA (open frontal area) and a catalytically active component (Col. 1-Col. 4).

Machida further discloses that one of ordinary skill in the art, thru routine optimization, can control and obtain these mechanical properties thru a series of optimized formulae (1) and (2) (Col. 2, lines 45-49).

Thus, it would have been obvious in view of Dettling and Machida et al. to one having ordinary skill in the art to fabricate the ceramic honeycomb structural body of EP '805 with a high degree of porosity as taught by Dettling et al. to increase the catalytic activity and the desirable mechanical properties for the honeycomb body can be optimized thru a series of optimized formulae as taught by Machida.

Double Patenting

Claims 1-2, 4-6, 8-14, 17, 19-36, 38-77, and 83 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 11/122,261. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application essentially claims substantially the same subject matter as the instant application but is silent with respect to the defect level. However, the copending application discloses all structural features of the instant application and further discloses similar mechanical properties as the instant application and thus, it would appear obvious that the copending application provide a honeycomb structure with a small defect level.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed 8/22/08 have been fully considered but they are not persuasive.

The affidavit filed under 37 C.F.R. § 1.132 has been considered but the argument is not persuasive.

Applicants urge that *“Moreover, non-catalytic supports are processed under conditions which provide enhanced mechanical properties without consideration to affects on catalytic*

properties or catalytic performance. Non-catalytic supports, such as those described in Dettling and Machida, for example, may be sintered at high temperatures to increase the strength of the non-catalytic support. Sintering at high temperatures is not available for catalytic materials since it will reduce or destroy surface area available for catalytic reaction.

Furthermore, as a result of the supported construction, the structural catalyst bodies described by Dettling and Machida do not have catalytic material dispersed throughout the outer peripheral wall and inner partition walls as presently claimed. The catalytic material resides only on the surface of the non-catalytic support.

Examiner respectfully disagrees. It is submitted that EP '805 discloses a honeycomb catalyst structure with the chemical composition of the instant claimed but EP '85 does not expressly disclose the hydraulic diameter and mechanical properties of the instant claimed invention.

The Dettling et al. reference is cited to show the importance of fabricating a honeycomb structure with thin inner and outer walls having with a high degree of porosity in order to increase the catalytic activity.

The Machida et al. reference is cited to show that the desired mechanical properties of the honeycomb body with thin wall structure can be obtained thru a series of routine optimized formulae.

Thus, it would have been obvious in view of Dettling et al. and Machida et al. to one having ordinary skill in the art to fabricate the device of EP '805 with the desirable high porosity and mechanical properties as taught by Dettling et al. and Machida et al. in order to provide a honeycomb catalyst body with optimum performance at most thru routine experimentation.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOM P. DUONG whose telephone number is (571)272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tom P Duong/
Patent Examiner, Art Unit 1797